

# Notice of Allowability

Application No.

09/751,756

Examiner

Alexander Jamal

Applicant(s)

MARSHALL ET AL.

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to appeal filed 12-12-2006.
2. ☒ The allowed claim(s) is/are 1,3,5,6,8-12,14 and 16-26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

CHANG KUN Z  
SENIOR PATENT EXAMINER  
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## DETAILED ACTION

### *Response to Applicant's Appeal*

1. Based upon the currently filed interview summary and examiner's amendment below, examiner withdraws all rejections to all claims. 1,3,5,6,8-12,14,16-26.

### *Examiner's Amendment*

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Juliet Dirba for Jenni R. Moen (52,038) on 3-24-2007.

The following claims have been amended as follows:

Claim 1.

(Currently Amended) A method for providing greater reach of a DSL signal comprising:

receiving an incoming DSL signal including a data signal and a voice signal ;

demodulating the data signal;

requantizing the demodulated data signal by determining a constellation associated with each bit of data in the modulated data signal and resetting the value of that bit to the value of the constellation to acquire underlying data in the data signal and transform the data signal into a regenerated form;

modulating the requantized data signal;

combining and amplifying the modulated requantized data signal and the voice signal; and transmitting the amplified signal.

Claim 2 has been cancelled

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Claim 7 has been cancelled

Claim 11.

(Currently Amended) A method for providing greater reach of a DSL signal having a data portion, comprising:

demodulating the data portion; requantizing the demodulated data portion by determining a constellation associated with each bit of data in the modulated data portion and resetting the value of that bit to the value of the constellation to acquire underlying data in the data portion and transform the data portion into a regenerated form; modulating the requantized data portion; combining and amplifying the modulated requantized data portion and a voice portion; and transmitting the amplified modulated requantized data portion.

Claim 13 has been cancelled

Claim 15 has been cancelled

Claim 16.

(Currently Amended) A system for facilitating greater reach of a DSL signal having a data portion, comprising:

a means for demodulating the data portion; a means for requantizing the demodulated data portion by determining a constellation associated with each bit of data in the modulated data portion and resetting the value of that bit to the value of the constellation and transform the data portion into a regenerated form;

a means for modulating the requantized data portion; and

a means for combining and amplifying the modulated requantized data portion and a voice portion.

Claim 18.

(Currently Amended) A system for facilitating providing greater reach of a DSL signal comprising: a means for splitting the DSL signal into separate voice and data signals; a means for demodulating the data signal; a means for requantizing the demodulated data signal by determining a constellation associated with each bit of data in the modulated data signal and resetting the value of that bit to the value of the constellation and transform the data signal into a regenerated form;

a means for modulating the requantized data signal; and

a means for combining and amplifying the voice signal and the modulated requantized data signal ~~data signals~~ into a combined signal.

Claim 19.

(Currently Amended) A bi-directional DSL repeater and amplifier comprising:

a first signal detector operable to receive a first incoming DSL signal including a first data signal and a first voice signal and to direct the first incoming DSL signal to a first conditioning circuit and also operable to receive a first outgoing data signal from a second conditioning circuit and direct the first outgoing data signal over a first telephone line;

the first conditioning circuit being operable to:

receive a signal indicative of the first incoming DSL signal; demodulate, requantize, and remodulate the first data signal to produce a first remodulated data signal, the first data signal requantized by determining a constellation associated with each bit of data in the modulated first data signal and resetting the value

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of that bit to the value of the constellation to acquire underlying data in the first data signal and transform the first data signal into a regenerated form; and

combine and amplify the first remodulated data signal and the first voice signal to produce a second outgoing data

signal;

the second conditioning circuit being operable to:

receive a signal indicative of a second incoming DSL signal including a second data signal and a second voice signal;

demodulate, requantize, and remodulate the second data signal to produce a second remodulated data signal, the second data signal requantized by determining a constellation associated with each bit of data in the modulated data signal and resetting the value of that bit to the value of the constellation to acquire underlying data in the second data signal and transform the second data signal into a regenerated form; and

combine and amplify the second remodulated data signal and the second voice signal to produce the first outgoing data

signal; and

a second signal detector operable to receive the second incoming DSL signal and direct the second incoming DSL signal to the second conditioning circuit and also operable to receive the second outgoing data signal from the first conditioning circuit and direct the second outgoing data signal over a second telephone line.

**Claim 20.**

(Currently Amended) The bi-directional DSL repeater and amplifier of Claim 19 wherein the first conditioning circuit comprises a low band filter and a high band filter for filtering the incoming DSL signal into the first voice signal and the first data signal.

***Allowable Subject Matter***

**3. Claims 1,3,5,6,8-12,14,16-26** are allowed over the prior art of record

**4. The following is an examiner's statement of reasons for allowance:**

In the examiner's opinion, it would not have been obvious to a person of ordinary skill in the art to provide an additional amplifier stage after the recombining stage in the remodulating, requantizing (regenerating) DSL repeater disclosed by Erreygers (6236664) and Shively (6418161).


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 571-272-7498. The examiner can normally be reached on M-F 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 571-272-7499. The fax phone numbers for the organization where this application or proceeding is assigned are **571-273-8300** for regular communications and **571-273-8300** for After Final communications.

AJ  
April 2, 2007

  
CURTIS KUNTZ  
SUPERVISORY PATENT EXAMINER  
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